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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/351,723	
	Filing Date	7/12/1999	
	First Named Inventor	Robert C. Wohlsen	
	Art Unit	2654	
	Examiner Name	Azad, A.	
Total Number of Pages in This Submission	115	Attorney Docket Number	1094

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
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Date	June 2, 2003

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FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 320

Complete if Known

Application Number 09/351,723

Filing Date 7/12/1999

First Named Inventor Robert C. Wohlsen

Examiner Name Azad, A.

Art Unit 2654

Attorney Docket No. 1094

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07-1738

Charles E. Gotlieb

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1) (\$)					

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below		Fee Paid
Total Claims	<div>21</div>	- 22** =	<div></div>	X	<div></div>	<div></div>
Independent Claims	<div>3</div>	- 3** =	<div></div>	X	<div></div>	<div></div>
Multiple Dependent					<div></div>	<div></div>

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple dependent claim, if not paid	
1204	84	2204	42	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2) (\$)					

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FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge-late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2520	1812	2520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1840*	1805	1840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1450	2254	725	Extension for reply within fourth month	
1255	1970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	320
1403	280	2403	140	Request for oral hearing	
1451	1510	1451	1510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1300	2453	650	Petition to revive - unintentional	
1501	1300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

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SUBTOTAL (3) (\$ 320

SUBMITTED BY

Name(Print/Type) Charles E. Gotlieb

Signature

Charles E. Gotlieb

Registration No.
(Attorney/Agent)

38,164

(Complete (if applicable))

Telephone

650-328-0100

Date

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D.J.
#26 10-1-03
Appeal/Brief

IN THE

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APPLICANT: Robert C. Wohlsen et. al.
SERIAL NO: 09/351,723
FILING DATE: 7/12/1999
TITLE: METHOD AND SYSTEM FOR IDENTIFYING A USER BY VOICE

GROUP ART UNIT: 2654
ATTY DOCKET NO: 1094
EXAMINER: Azad, A.

CERTIFICATION OF MAILING

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Audrey Yang
Audrey Yang

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APPEAL BRIEF UNDER 37 C.F.R 1.192

SIR:

In support of the appeal of the above-referenced case:

06/09/2003 AWONDAF1 00000008 09351723

01 FC:1402

320.00 OP

1. Real Party In Interest.

The real party in interest is Charles Schwab & Co., Inc.

2. Related Appeals and Interferences.

There are no related appeals or interferences.

3. Status of Claims.

Claims 23-43 remain in the case and are rejected.

Claims 23, 25, 30, 32 and 37 are appealed.

4. Status of Amendments.

Amendments A-F been filed and amendments A-D have been entered, amendments E and F having been filed after the most recent final office action mailed December 2, 2002. In an advisory action, the Examiner did not state whether amendments E or F would be entered. Examiner should enter amendment F, not amendment E.

5. Summary of Invention.

The invention recognizes a user when the user speaks at least one utterance, for example, a name and a password. A recognition is performed on the utterance and then the recognition is used to narrow the identity of the user to a set of potential users that is smaller in number than all of a group of registered users. A grammar extraction is

performed on the at least one utterance and then used to narrow the identity of the user to one user. A voiceprint of the utterance is compared to a voiceprint of the one user to whom the user has been narrowed to verify the identity of the user.

The claims are supported in the specification, without limitation, in at least the following locations:

23. A method of obtaining a user's identity by voice, comprising:	Page 12, line 10.
receiving a set of at least one known grammar and a set of at least one known voiceprint corresponding to a plurality of utterances from each of a first plurality of users;	Page 4, lines 5-6. Page 13, lines 1-3. Page 8, line 1 to page 12, line 8.
for each of the first plurality of users, associating the set of at least one known grammar and the set of at least one known voiceprint with an identifier of	Page 10, lines 5-15. Page 11, lines 5-13.

said user;	
receiving at least one utterance from a subject user;	
performing a voice recognition on at least one of the at least one utterance received from the subject user, said voice recognition being different from extracting a grammar from a first at least one of the at least one utterance received from the subject user;	Page 13, lines 13-24.
responsive to the voice recognition technique, selecting from the first plurality of users a second plurality of users, smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one	Page 14, lines 12-page 16, line 7.

voiceprint associated with the identifiers of the second plurality of users;	
from the second plurality of users, selecting the user for which a grammar of the first at least one of the at least one utterance received from the subject user most closely matches at least one of the set of at least one grammar associated with the identifiers of the second plurality of users;	Page 16, line 15-page 17, line 2.
verifying a voiceprint of at least one of the at least one utterance has at least a similarity to the set of at least one voiceprint of the selected user; and	Page 17, line 19-page 18, line 4
responsive to the verifying step, providing the identifier of the selected user as the identifier	Page 18, lines 4-16.

of the subject user.	
25. The method of claim 23 wherein the voice recognition technique comprises speaker independent voice recognition.	Page 13, lines 20-21.
30. A system for obtaining a user's identity by voice, comprising:	Page 12, line 10.
storage for storing and providing at an output a set of at least one known grammar and a set of at least one known voiceprint corresponding to a plurality of utterances from each of a first plurality of users, for each of the first plurality of users, the set of at least one known grammar and the set of at least one known voiceprint being associated with an identifier of said user;	Voiceprint storage 232, page 10, lines 5-6; grammar storage 234, page 11, lines 5-6.
a first recognizer having an input operatively coupled for	Page 13, line 13 - page 14, line 11.

receiving at least one utterance from a subject user, the first recognizer for performing a voice recognition on at least one of the at least one utterance received from the subject user, said voice recognition being different from extracting a grammar from a first at least one of the at least one utterance received from the subject user, the first recognizer additionally for, responsive to the voice recognition technique, selecting from the first plurality of users a second plurality of users, smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one

<p>voiceprint associated with the identifiers of the second plurality of users received at a second input coupled to the storage output, and for providing at an output identifiers of the second plurality of users;</p>	
<p>a second recognizer having a first input for receiving the identifiers of the second plurality of users, and a second input for receiving at least one of the at least one utterance from the subject user, the second recognizer for extracting a grammar from the at least one of the at least one utterance received at the second second voice recognizer input, and for selecting from the second plurality of users the user for which the grammar extracted most closely matches at least one of</p>	<p>Page 16, line 15-page 17, line 6.</p>

<p>the set of at least one grammar associated with the identifiers of the second plurality of users received at a third input coupled to the storage output, and for providing an identifier of the selected user at an output;</p>	
<p>a verifier having a first input coupled to the second recognizer output, the verifier for obtaining a voiceprint of at least one of the at least one utterance received at a second input, and for verifying a voiceprint of at least one of the at least one utterance has at least a similarity to the set of at least one voiceprint of the selected user received at a third input coupled to the storage output; and responsive to said verification, providing at an output the identifier of the</p>	<p>Page 17, line 20-page 18, line 8.</p>

selected user as the identifier of the subject user.	
32. The system of claim 30 wherein the first recognizer performs the voice recognition using speaker independent voice recognition.	Page 13, lines 20-21.
37. A computer program product comprising a computer useable medium having computer readable program code embodied therein for obtaining a user's identity by voice, the computer program product comprising computer readable program code devices configured to cause a computer to:	Page 5, lines 21-22; Page 6, line 20-page 7, line 5; Page 12, line 10.
receive a set of at least one known grammar and a set of at least one known voiceprint corresponding to a plurality of utterances from each of a first	Page 4, lines 5-6. Page 13, lines 1-3. Page 8, line 1 to page 12, line 8.

plurality of users;	
for each of the first plurality of users, associate the set of at least one known grammar and the set of at least one known voiceprint with an identifier of said user;	Page 10, lines 5-15. Page 11, lines 5-13.
receive at least one utterance from a subject user;	
perform a voice recognition on at least one of the at least one utterance received from the subject user, said voice recognition being different from extracting a grammar from a first at least one of the at least one utterance received from the subject user;	Page 13, lines 13-24.
responsive to the voice recognition technique, select from the first plurality of users a second plurality of users,	Page 14, lines 12-page 16, line 7.

<p>smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one voiceprint associated with the identifiers of the second plurality of users;</p>	
<p>from the second plurality of users, select the user for which a grammar of the first at least one of the at least one utterance received from the subject user most closely matches at least one of the set of at least one grammar associated with the identifiers of the second plurality of users;</p>	<p>Page 16, line 15-page 17, line 2.</p>
<p>verify a voiceprint of at least one of the at least one utterance has at least a similarity to the</p>	<p>Page 17, line 19-page 18, line 4</p>

set of at least one voiceprint of the selected user; and	
responsive to the computer readable program code devices configured to cause the computer to verify, provide the identifier of the selected user as the identifier of the subject user.	Page 18, lines 4-16.

6. Issues.

A. Has Examiner Shown that the Use of "voice recognition" is improper under 35 U.S.C. 112, second
5 paragraph?

B. Has the Examiner located in the Schier reference the selecting-the-most-closely-matching-user step claimed?

C. Has Examiner Shown That a Voice Reorganization System is "Well Known".

10 D. Does Examiner's Purportedly Well-Known Voice Reorganization System Meet All the Limitations of the Claim Element For Which It Has Been Used?

E. Has Examiner Stated Any Motivation To Combine any Voice Reorganization System With The Schier Reference?

F. Has Examiner Stated Any Motivation to Combine the Schier Reference with the Kanevsky Reference or a Reasonable Expectation of Success?

G. Does the Combination of Kanevsky and Schier Show
5 the Features of the Claimed Invention For Which They Are
Asserted?

H. Has Examiner Shown the Features Of Claim 30?

7. Grouping of Claims.

Claims 23, 30 and 37 stand and fall together as a
10 single group, group 1. Claims 25 and 32 stand and fall
together as a single group 2, only these two claims having
been rejected under 35 U.S.C. 112, second paragraph.

8. Argument.

A. Examiner Has Not Shown That the Use of "Voice
15 Recognition" is Improper.

In the Final Action Mailed December 2, 2002, Examiner
rejected claims 25 and 32 under 35. U.S.C. 112, second
paragraph, objecting to the use of the words "voice
recognition" in the phrase , "speaker independent voice
20 recognition", as meaning what Examiner believes is more
properly referred to as "speech recognition". .

M.P.E.P. Section 2173.01 states in pertinent part,
"applicants are their own lexicographers. They can define
in the claims what they regard as their invention
essentially in whatever terms they choose as long as the
5 terms are not used in ways that are contrary to accepted
meanings in the art."

Applicants have pointed out to Examiner that
Examiner's own primary reference was using the term
"speaker-independent voice recognition" in a manner
10 consistent with Applicants' interpretation, opposite to
that proposed by Examiner, but Examiner states on lines 7-8
of the second advisory action, mailed 4/17/03 that the
primary reference got it wrong also and should have used
"speaker-independent speech recognition".

15 Newton's Telecom Dictionary (13th ed., Telecom Books
and Flatiron Publishing 1998) defines "speaker independent
voice recognition" but does not define "speaker independent
speech recognition" as Examiner would prefer to change the
term. Thus, Applicants have not used the term "voice
20 recognition" in the term "speaker independent voice
recognition" in any manner that is inconsistent with
accepted meanings in the art. However, Examiner's proposed
solution "speaker independent speech recognition" is not an

accepted term, and would have an unclear meaning, and Examiner has pointed to no reference to the contrary to any of these points. Thus, claims 25 and 32 comply with 35 U.S.C. 112, second paragraph.

5 This issue applies only to claim group 2, claims 25 and 32, grouped separately because they are the only claims that stand rejected under 35 U.S.C. 112. The remainder of the issues apply to claim group 1.

10 B. The Examiner has Not Located the Selecting-The-Most-Closely-Matching-User Step Because No Such Selecting Is Disclosed by Schier.

15 Claim 23 recites, "responsive to the voice recognition technique, selecting from the first plurality of users a second plurality of users, smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one voiceprint associated with the identifiers of the second plurality of users".

20 Claim 30 recites, "the first recognizer additionally for, responsive to the voice recognition technique, selecting from the first plurality of users a second plurality of users, smaller than the first plurality of

users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one voiceprint associated with the identifiers
5 of the second plurality of users received at a second input coupled to the storage output".

Claim 37 recites, "responsive to the voice recognition technique, select from the first plurality of users a second plurality of users, smaller than the first plurality
10 of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one voiceprint associated with the identifiers of the second plurality of users".

15 On page 4, lines 5-9 of the final office action, Examiner states that the selecting-the-most-closely-matching-user portion of these claimed features is illustrated by elements 221 and 222 in Figure 3A of Schier. Examiner is required under M.P.E.P. 2143 to show that the
20 references when combined teach or suggest all of the claimed features. Examiner has not done this here for a multitude of reasons.

Steps 221 and 222 state "convert spoken numbers to digital" and "read digital numbers to caller for verification", respectively. The steps are described in Schier starting at column 4, line 62, "In step 221, the
5 spoken input is converted into digital numerical information based on recognition algorithms in the voice recognition system. In step 221, the digital numerical information is read back to the caller, and the caller is given the opportunity at step 222 to verify that the
10 digital numerical information is what was spoken by the user."

Examiner claims that this reads on the claimed element, "from the second plurality of users, selecting the user for which a grammar of the first at least one of the
15 at least one utterance received from the subject user most closely matches at least one of the set of at least one grammar associated with the identifiers of the second plurality of users". However, no selecting a user from a plurality of users is explicitly disclosed in the manner
20 claimed. Thus, to show that the claimed element reads on the reference, the reference would have to inherently disclose the claimed selecting step in the manner claimed. Because, as set forth in M.P.E.P. 2112, the Examiner can only show inherency if there is no other way of performing

the function recited, if Applicant can indicate another way, there is no inherency and therefore, the claimed language does not read on the reference.

Here, conventional speaker-independent voice
5 recognition may be used to recognize the digits and play them back to the caller. There is no need for any selecting of a user to be performed using the most closely matching grammar as claimed. Because steps 220 and 221 do not explicitly disclose the claimed element for which they
10 have been asserted by Examiner and can be performed without any selecting of users, the claimed element is patentably distinguishable from Schier.

It is noted that, in Schier, the next step after the identification of the digits spoken is the selection of a
15 user. Does this match the claimed element? The answer is no, the claimed element requires the selection be performed by matching grammars, and this is not explicitly disclosed, nor is it necessary. In fact, Schier practically teaches away from performing the step using this function because
20 Schier takes the recognized digits and looks them up in a database of digits stored for each user to select the user. If Schier had used grammars to select a user, he would not

need to look up that user in the database, which he does at steps 204, 205 and 210 at column 4, lines 24-30.

Would the claim element read on the combination of all of these steps? The answer here again is no. The claim

5 element reads as follows:

from the second plurality of users, selecting the user for which a grammar of the first at least one of the at least one utterance received from the subject user most closely matches at least one of the set of
10 at least one grammar associated with the identifiers of the second plurality of users

Ignoring the issue of the second plurality of users, which is addressed below, Schier never describes the specific technique he uses to recognize the digits, and
15 grammar extraction is not the only way of performing voice recognition, so there is no inherency of grammar extraction. Even if it were, the speaker independent nature of the voice recognition being performed at that time (before the identity of the user is known) in Schier
20 would mean that there would be no most-closely matching the grammar extracted with at least one grammar associated with the identifiers of any plurality of users as claimed.

Thus, the claim element does not read on Schier and Examiner has not made out a prima facie case of obviousness under M.P.E.P. 2143.

5 C. There Does Not Appear to Be a "Voice Reorganization System" that Is Well Known.

On page 4, line 17, Examiner refers to the well known "voice reorganization system". Examiner has been requested to provide evidence of such a "reorganization system", the details of its operation, and the fact that it is well known. Examiner has not responded to any request for such documentation, other than to state in the second advisory action mailed April 17, 2003, that he intended something else. Thus, the reference is not considered well known under M.P.E.P. 2143.03. Because the rejection is technically still in the case, it is being addressed here.

An admittedly not-authoritative, but indicative search on Google.com of "Voice Reorganization System" yields only four references, none of which detail a system that shows the features of the claim language asserted by Examiner.

20 D. Examiner's Purported Voice Reorganization System Does Not Contain All the Features of the Claim Element For Which Examiner Has Used It.

M.P.E.P. 2143 makes clear that the references must teach all of the claim limitations to make out a prima facie case of obviousness.

Examiner states that the "well known voice reorganization system" "reduces recognized persons from the initial persons by at least a factor of ten", but this does not show the selection a *plurality* of users as claimed. Even the function performed by conventional voice recognition systems, which select a single user, not the plurality as claimed, do not supply the features claimed. Therefore, Examiner has not even asserted that all of the claimed features are shown in the references cited or asserted as well known. Examiner has therefore not made out a prima facie case of obviousness under M.P.E.P 2143.

15 E. Examiner Has Stated No Motivation To Combine any Voice Reorganization System With The Schier Reference

Under M.P.E.P. 2143.01, the fact that references can be combined does not render the combination obvious unless the prior art also suggests the desirability of the combination. Examiner states at the end of page 4 of the Final Action mailed 12/02/2002, that voice recognition has the ability to "recognized (sic) persons unique characteristic of utterance". However, this is just a

characteristic of certain voice recognition systems, it is not a motivation to make any combination. Examiner has cited nothing in either reference that would lead one to make the claimed combination. Examiner is using

5 impermissible hindsight to piece together features of the claimed invention, rather than suggest any motivation to combine or modify and indicate a reasonable likelihood of success.

F. Examiner Has Stated No Motivation To Combine the
10 Schier Reference with the Kanevsky Reference with a
Reasonable Expectation of Success.

In the second paragraph of the second advisory action, mailed 4/17/03, Examiner states that Kanevsky illustrates the well known "voice reorganization system", which the
15 Examiner had used to reject the claims in the Official Action mailed December 2, 2002. However, Examiner stated in that Official Action that the "motivation" to combine Schier with the "well known voice reorganization system" (now asserted to be Kanevsky) was because "voice
20 recognition has the ability to recognize persons unique characteristics of utterance". This is the closest Examiner has come to a motivation to combine Kanevsky, because Examiner never stated any such motivation for

combining Kanevsky with Schier in the advisory action when Examiner asserted the combination. But Examiner points to no reason why this combination would help Schier.

Schier already uses the Sprint Voice FONCard system to
5 recognize users at Column 4, lines 38-46. It isn't at all clear why a statement about a generic capability of a voice recognition system would improve Schier, which already uses a voice recognition capability. Examiner has pointed to nothing in Schier or Kanevsky that would lead one skilled
10 in the art to believe that using the ability to recognize the unique characteristics of utterance Examiner assumes is specified in Kanevsky to believe that it was any better than the Sprint FONCard system already being used by Schier. As set forth in M.P.E.P. 2143, to establish a
15 prima facie case of obviousness, Examiner must locate a suggestion or motivation to make the combination, and there must be a reasonable expectation of success. Examiner has stated no real motivation, just a characteristic. And Examiner has not shown any reasonable expectation of
20 success, other than the hindsight application of Applicant's invention.

Therefore, Examiner has not stated a prima facie case of obviousness under M.P.E.P. 2143.

G. The Features of the Claims are Not Shown or Suggested by the combination of Kanevsky or Schier.

As set forth in M.P.E.P. 2143, the references when combined must teach or suggest all of the claimed features of the invention, and if a reference is to be modified, there must be some motivation to make the modification.

Kanevsky, at column 4, lines 1-25, addresses an iterative process in which the identity of a user is narrowed down to a single user by an iterative question and answer process in which multiple questions are asked and the answers used to eliminate potential users until a single user remains. However, Kanevsky never states that at any point, a second plurality of users, smaller than the first plurality of users by a factor of at least ten, has been selected, as claimed. Such reduction is not inherent either: the system could be used to narrow the field from four users to one, for example. Under M.P.E.P. 2112, Examiner is required to show that the missing claimed feature is necessarily present and that is not the case, as the above example reduction from 4 to 1 shows.

Even if Kanevsky stated such a reduction, Kanevsky's iterative process terminates when there is either one or no users left, (which Kanevsky has written in a form similar

to the form sometimes used for claiming, "until one of A and B", which means "until A or B", at column 4, lines 18-20. To read on the claimed feature for which Examiner has asserted Kanevsky, Kanevsky must select a second plurality of users from the first plurality, but Kanevsky's process does not do this.

Kanevsky could select a plurality of users if the Kanevsky process were terminated partway through to its completion, but Examiner has not shown any motivation to terminate the Kanevsky process partway through, or any indication anywhere that there would be a reasonable expectation for success of doing so, other than to use the hindsight of Applicant's invention to reconstruct the invention by selecting portions of processes from one reference, and inserting them into another reference. Examiner stated the motivation for the "voice reorganization system", for which Kanevsky is now being substituted, was that "voice recognition has the ability to recognize persons unique characteristics of utterance" as described above. But terminating the Kanevsky process part way through before it has the opportunity to uniquely identify the user conflicts with Examiner's only stated motivation, and thus, there is no probability of success as required by M.P.E.P. 2143. If one were motivated by the

idea of recognizing a person's unique characteristics of utterance, one would not terminate the Kanevsky process before it did that and if not terminated, it does not select a plurality of users as claimed.

5 One skilled in the art would have no motivation to use a portion of the steps of Kanevsky other than to reconstruct the claimed invention. Examiner is simply attempting to reconstruct the claims using portions of various references using hindsight reconstruction, an
10 impermissible process under M.P.E.P. 2141. Furthermore, there is no motivation to alter the Kanevsky process in this manner, since doing so would make it unsatisfactory for its intended purpose of finding one or no users. Kanevsky, column 4, lines 18-20.

15 Examiner has not located all of the features of the claimed invention in the references, nor provided any motivation to make such a combination in a workable way. Therefore, Examiner has failed to make out a prima facie case of obviousness.

20 H. Examiner Has Not Shown the Features of Claim 30.

Under M.P.E.P. 2143, Examiner is required to show that the reference or references show all of the features of the claimed invention. Claim 30 is an apparatus claim that

recites structure. On page 6 of the Final Action mailed 12/02/2002, Examiner points to steps in Schier in an attempt to illustrate features of a system. The pointed to portions of Schier are not systems or components thereof, but merely steps performed without any mention of structure. Thus, Examiner has not met his burden under M.P.E.P. 2143 with respect to claim 30 because all of the claimed features are not shown by the references.

I. Conclusion.

Examiner has failed to show any reason why "speaker independent voice recognition" is improper under 35 U.S.C. 112, second paragraph.

Examiner has failed to make out a prima facie case of obviousness because the references when combined, do not show all of the claimed features, nor is there sufficient motivation to make the combinations and modifications Examiner has proposed with any reasonable expectation for success.

9. Appendix A: Copy of the Claims Involved in the Appeal

23. A method of obtaining a user's identity by voice, comprising:

5 receiving a set of at least one known grammar and a set of at least one known voiceprint corresponding to a plurality of utterances from each of a first plurality of users;

for each of the first plurality of users, associating
10 the set of at least one known grammar and the set of at least one known voiceprint with an identifier of said user;

receiving at least one utterance from a subject user;

performing a voice recognition on at least one of the at least one utterance received from the subject user, said
15 voice recognition being different from extracting a grammar from a first at least one of the at least one utterance received from the subject user;

responsive to the voice recognition technique, selecting from the first plurality of users a second
20 plurality of users, smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set

of at least one voiceprint associated with the identifiers
25 of the second plurality of users;

from the second plurality of users, selecting the user
for which a grammar of the first at least one of the at
least one utterance received from the subject user most
closely matches at least one of the set of at least one
30 grammar associated with the identifiers of the second
plurality of users;

verifying a voiceprint of at least one of the at least
one utterance has at least a similarity to the set of at
least one voiceprint of the selected user; and

35 responsive to the verifying step, providing the
identifier of the selected user as the identifier of the
subject user.

25. The method of claim 23 wherein the voice
recognition technique comprises speaker independent voice
recognition.

30. A system for obtaining a user's identity by
voice, comprising:

storage for storing and providing at an output a set
of at least one known grammar and a set of at least one
5 known voiceprint corresponding to a plurality of utterances
from each of a first plurality of users, for each of the

first plurality of users, the set of at least one known grammar and the set of at least one known voiceprint being associated with an identifier of said user;

10 a first recognizer having an input operatively coupled for receiving at least one utterance from a subject user, the first recognizer for performing a voice recognition on at least one of the at least one utterance received from the subject user, said voice recognition being different
15 from extracting a grammar from a first at least one of the at least one utterance received from the subject user, the first recognizer additionally for, responsive to the voice recognition technique, selecting from the first plurality of users a second plurality of users, smaller than the
20 first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one voiceprint associated with the identifiers of the second plurality of users received at a
25 second input coupled to the storage output, and for providing at an output identifiers of the second plurality of users;

 a second recognizer having a first input for receiving the identifiers of the second plurality of users, and a

30 second input for receiving at least one of the at least one
utterance from the subject user, the second recognizer for
extracting a grammar from the at least one of the at least
one utterance received at the second second voice
recognizer input, and for selecting from the second
35 plurality of users the user for which the grammar extracted
most closely matches at least one of the set of at least
one grammar associated with the identifiers of the second
plurality of users received at a third input coupled to the
storage output, and for providing an identifier of the
40 selected user at an output;

a verifier having a first input coupled to the second
recognizer output, the verifier for obtaining a voiceprint
of at least one of the at least one utterance received at a
second input, and for verifying a voiceprint of at least
45 one of the at least one utterance has at least a similarity
to the set of at least one voiceprint of the selected user
received at a third input coupled to the storage output;
and responsive to said verification, providing at an output
the identifier of the selected user as the identifier of
50 the subject user.

32. The system of claim 30 wherein the first recognizer performs the voice recognition using speaker independent voice recognition.

37. A computer program product comprising a computer useable medium having computer readable program code embodied therein for obtaining a user's identity by voice, the computer program product comprising computer readable
5 program code devices configured to cause a computer to:

receive a set of at least one known grammar and a set of at least one known voiceprint corresponding to a plurality of utterances from each of a first plurality of users;

10 for each of the first plurality of users, associate the set of at least one known grammar and the set of at least one known voiceprint with an identifier of said user;

receive at least one utterance from a subject user;

perform a voice recognition on at least one of the at
15 least one utterance received from the subject user, said voice recognition being different from extracting a grammar from a first at least one of the at least one utterance received from the subject user;

responsive to the voice recognition technique, select
20 from the first plurality of users a second plurality of

users, smaller than the first plurality of users by a factor of at least ten, for which the first voice recognition most closely matches at least one selected from the set of at least one grammar and the set of at least one
25 voiceprint associated with the identifiers of the second plurality of users;

from the second plurality of users, select the user for which a grammar of the first at least one of the at least one utterance received from the subject user most
30 closely matches at least one of the set of at least one grammar associated with the identifiers of the second plurality of users;

verify a voiceprint of at least one of the at least one utterance has at least a similarity to the set of at
35 least one voiceprint of the selected user; and

responsive to the computer readable program code devices configured to cause the computer to verify, provide the identifier of the selected user as the identifier of the subject user.

Appendix B: Newton's Telecom Dictionary

BEST AVAILABLE COPY

Spare Pairs In existing distribution systems, twisted pairs that are not being used and can be used to serve new communications devices. Spare pairs are exactly what they sound like — spare pairs of cables. Best to install as many spares as you can when you initially wire up a building or office. Remember Newton's Rule: You'll always need twice as much cabling as you ever dreamed in your wildest dreams you'd need.

Spark An arc of very short duration.

Spark Gap Terminals or electrodes designed to permit spark discharges to take place across a gap.

Spark Test A test designed to locate pin-holes in a wire's insulation by application of an electrical potential across the material for a very short period of time while the wire is drawn through an electrode field with one end of the wire grounded.

Sparse Network 1. A network concept describing an environment in which the intelligence of the End Offices (Central Offices) largely is stripped away in favor of the placement of relatively few centralized computer platforms which perform the majority of call processing. The dumb switches make calls to the centralized processors which consult associated databases, providing the switches with instructions. The concept of a Sparse Network is fundamental to that of the Advanced Intelligent Network (AIN).

2. A network concept involving many fewer End Offices than are currently deployed. Rather than a user gaining access to a local End Office, traffic would be concentrated at local points and shipped to a larger and more capable office serving a much larger geographic area. Advances in transmission technology, namely fiber optics, make this concept feasible as the cost of transmission bandwidth is dropping precipitously, while the cost of switches (particularly intelligent switches) is not. Hence the concentration of switches and switch intelligence.

SPATA Speech And data. Watch for this expression to pick up steam once true integration of voice and data occurs. The expression does not come from the sentence: "Spata to integrate today than tomorrow."

Spatial Data Management A technique which allows users access to information by pointing at picture symbols on the screen.

SPC 1. Stored Program Control. All phone systems these days are SPCs. There's stored software, which is the program, which controls the computer or microprocessor which in turn controls the operation of the switch. Thus switches are stored program control.

2. Signal Processing Component.

SPC Allocation Service An SCSA definition. A service which allocates SPCs (Signal Processing Components) to Groups.

SPCAS SPC Allocation Service.

SPCS Stored Program Controlled Switch. A digital switch that supports call control, routing, and supplementary services provision under software control. Pretty well switches made after 1970 in North America are SPCSS.

SPCL Spectrum Cellular error-correction protocol.

SPE 1. Switch Processing Element or Signal Processing Element.

2. Synchronous Payload Envelope. A SONET term describing the envelope which carries the user data, or payload. The SPE comprises 783 octets, organized into 87 columns and 9 rows. Three different payload structures are defined to address different input requirements: 1. Direct-to-STS-1 line rate multiplexing takes 28 DS-1s, 14 DS-1Cs or 7 DS-2s directly into the 51.84 Mbps rate. Each is uniquely transported within the SPE; 2. Asynchronous DS-3 Multiplexing takes a complete

asynchronous DS-3 bundle (the output of a multiplexer) into the SPE; 3. Synchronous DS-3 Multiplexing takes a Syntran DS-3 signal to the SPE.

Speaker Adaptive Speech recognition system which adapts with use. See SPEECH RECOGNITION.

Speaker Dependent Voice Recognition Speech recognition capable of recognizing speech from a given speaker who sounds like this user after completion of a training procedure. It is not voice verification although it is confused with this technology.

Speaker Identification Speaker identification system to determine the identity of a known speaker. It is accomplished by taking spoken input and searching a database of system users for a match. Due to its speaker-dependent recognition characteristics, you must first be trained by a user prior to using the system. To enroll as a user, a user is required to speak one or more phrases which are recorded. These phrases create a reference template which are stored in the system user database. When using the system is prompted for a specific phrase or word phrase. When speaking the prompted phrase, it creates a new template. This template is then compared to all reference templates in the system for that word. The reference template with the closest match is selected. The uniqueness of each user's voice and the number of users of the system makes the identification process difficult. With speaker identification the speaker must be a particular individual. He or she is not a member of a group of common users. For the most part, this technology is used for hands free operation of a system, and other information specific to that individual is pulled-up for use at that time.

Speaker Independent Voice Recognition SIVR. Technology capable of recognizing speech without prior training or knowledge of the user. SIVR is used to accurately and meaningfully interpret natural language (ASCII). SIVR is used to accept input from call processors where the callers are using rotary phones instead of touchtone phones. SIVR can substitute numbers on the DTMF keypad and can add the basic voice commands, e.g., Yes, No, Help, etc. Because computer processing demands are high, speaker independent recognition, accurate speech recognition products are created with limited vocabularies, but trainable or speaker dependent recognition products allow larger vocabularies at lower prices. SIVR has been seeing acceptance in telephone applications. SIVR is used in automated operator assistance applications. SIVR will see increased use as system builders respond to the demand for voice processing functions to the telephone installed base domestically and abroad.

Speaker Recognition Having a machine recognize human voice. This is an imprecise term.

Speakerphone A telephone which has a built-in microphone for hands free, two-way conversation.

Special Access A dedicated line from a customer to a distance company provided by a local phone company.

Special Billing Number A phone number assigned to certain customers for billing purposes. It cannot be used by any other customer. It may be given to an operator as the calling number for a going paid call, or it may be used as a third number for a number. It's designed as a measure of security and convenience.

Characters 1. Characters found on your keyboard are accounted for in the Accessory Character Set, or end-of-dial characters such as an Auto Dial character. 2. Distribution A party call volume character is a day in which a character normally occurs. 3. Grade Access A character conditioned, usually by a character, to give a character services; e.g., a character per second. 4. Information 1. A character company character, such as a character, to longer in service. 5. Night Answer A character may have a character of tones, allow a character through a character. 6. Night Answer A character pre-assigned to a character night calls. 7. Routing Code A character available for use with a character or call-handling character. 8. System Codes by a character to block all customer character of a 10-digit character in the first digit character. 9. Services A character public switched network character. 10. Common

RANGE

10 Hz
100 Hz
1 kHz
10 kHz
100 kHz
1 MHz
10 MHz
100 MHz
1 GHz
10 GHz
100 GHz >

RANGE

10 Hz
100 Hz
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100 GHz >

Claims 23, 25, 30, 32, and 37 are in condition for allowance. Favorable action is solicited.

Respectfully submitted,

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By:

Charles E. Gotlieb

Registration No. 38,164

Innovation Partners

540 University Ave., Suite 300

Palo Alto, CA 94301

(650) 328-0100